FluWatch

Public Health Agency of Canada | Agence de la santé publique du Canada

September 27 to October 10, 2015 (weeks 39 & 40)

Overall Summary

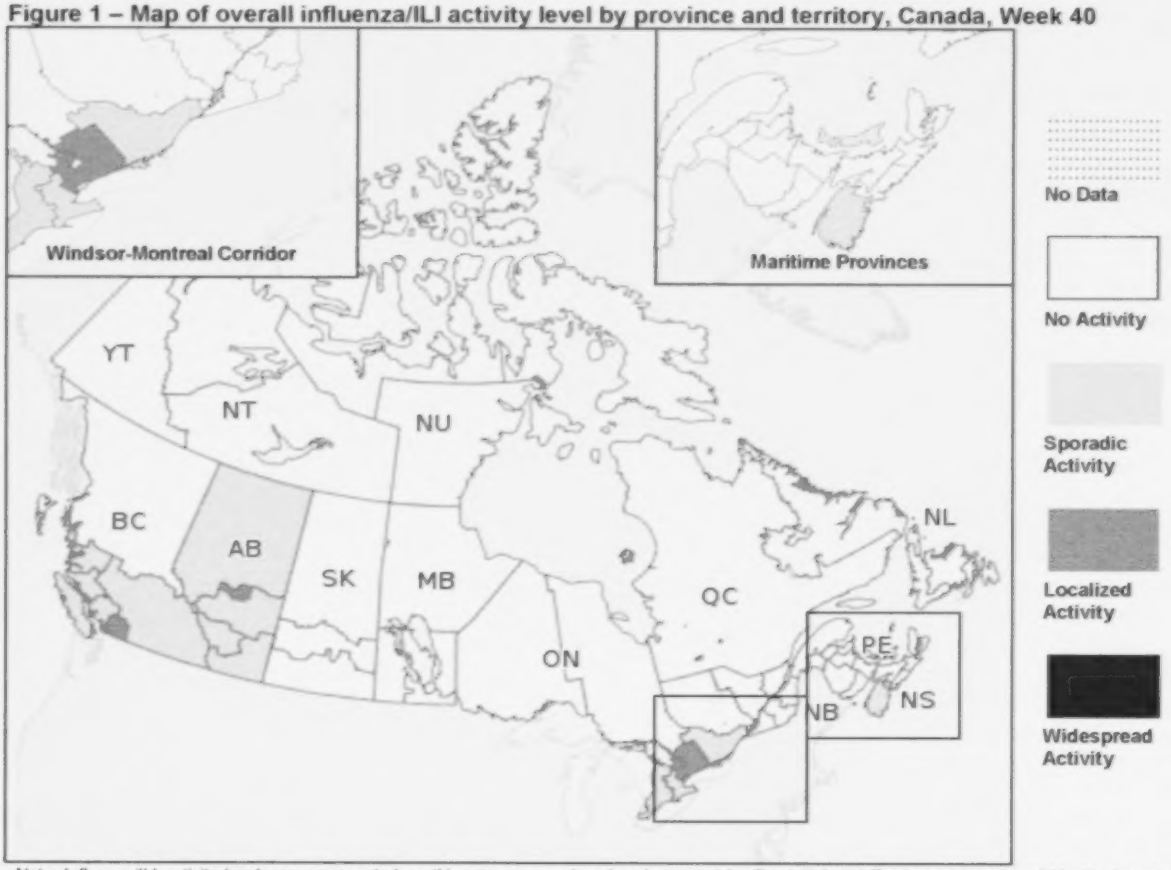
- Overall, there is low influenza activity in Canada; however, influenza activity and detections are increasing, especially in BC and ON.
- In weeks 39 and 40, five influenza outbreaks were reported, the majority were reported in long-term care facilities. To date this season, seven outbreaks have been reported, which is lower compared to the same period in the previous season.
- To date, 19 hospitalizations have been reported from participating regions, which is similar to the number reported last year at this time.
- For more information on the flu, see our Flu(influenza) web page.

Are you a primary health care practitioner (General Practitioner, Nurse Practitioner or Registered Nurse) interested in becoming a FluWatch sentinel for the 2015-16 influenza season? Contact us at FluWatch@phac-aspc.gc.ca

Influenza/Influenza-like Illness Activity (geographic spread)

In week 40, sporadic and localized influenza activity were reported in the Western provinces, Ontario and in one region of Nova Scotia.

Figure 1 – Map of overall influenza/ILI activity level by province and territory, Canada, Week 40

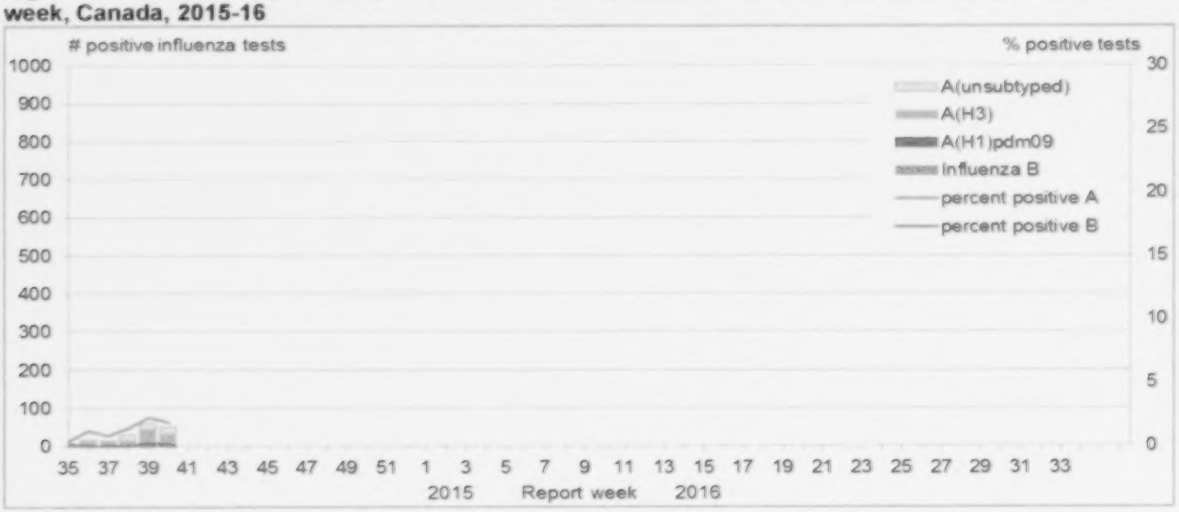


Note: Influenza/ILI activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates and reported outbreaks. Please refer to detailed definitions at the end of the report. Maps from previous weeks, including any retrospective updates, are available in mapping feature found in the Weekly Influenza Reports.

Laboratory Confirmed Influenza Detections

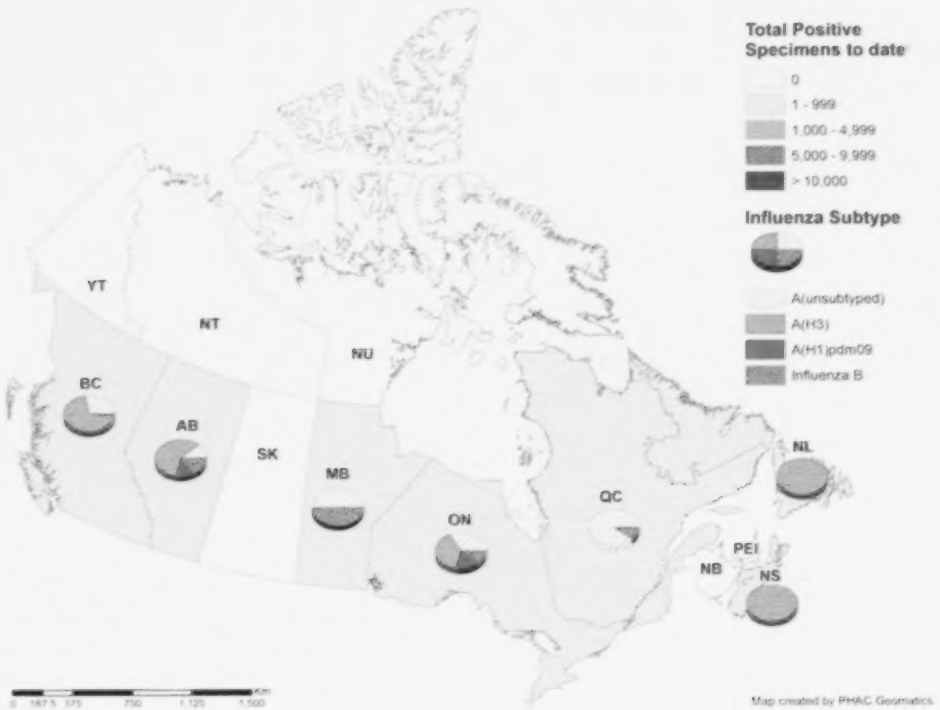
The number of positive influenza tests increased over the two week period. In week 40, the percent positive for influenza detections remained low at 2.1%; however, this is the highest recorded value compared the previous five seasons during the same period (Figure 2).

Figure 2 – Number of positive influenza tests and percentage of tests positive, by type, subtype and report week, Canada, 2015-16



Most jurisdictions have reported only sporadic numbers of influenza detections in recent weeks. The majority of detections in Canada have been reported from BC and ON, accounting for 88% of influenza detections in Canada in week 40. To date, 92% of influenza detections have been influenza A and the majority of those subtyped have been A(H3).

Figure 3 – Cumulative numbers of positive influenza specimens by type/subtype and province, Canada, 2015-16



Note: Specimens from NT, YT, and NU are sent to reference laboratories in other provinces. Cumulative data includes updates to previous weeks.

Among cases with reported age, the largest proportion was in those ≥65 years of age (44%) (Table 1). Compared to the previous year during the same period, a greater proportion of cases in the 45-64 age group have been reported to date.

Table 1 – Weekly and cumulative numbers of positive influenza specimens by type, subtype and age-group reported through case-based laboratory reporting[1], Canada, 2015-16

Age groups (years)	Weekly (October 4 to October 10, 2015)					Cumulative (August 30, 2015 to October 10, 2015)						
	Influenza A				B	Influenza A				B	Influenza A and B	
	A Total	A(H1) pdm09	A(H3)	A (UnS)[3]	Total	A Total	A(H1) pdm09	A(H3)	A (UnS)[3]	Total	#	%
<5	0	0	0	0	0	6	1	5	0	1	7	4.5%
5-19	2	0	2	0	2	7	0	5	2	4	11	7.1%
20-44	2	1	0	1	1	18	4	8	6	3	21	13.6%
45-64	5	2	2	1	0	43	7	26	10	3	46	29.9%
65+	15	0	8	7	0	66	0	46	20	2	68	44.2%
Unknown	1	0	1	0	0	1	0	1	0	0	1	0.6%
Total	25	3	13	9	3	141	12	91	38	13	154	100.0%
Percentage[2]	89.3%	12.0%	52.0%	36.0%	10.7%	91.6%	8.5%	64.5%	27.0%	8.4%		

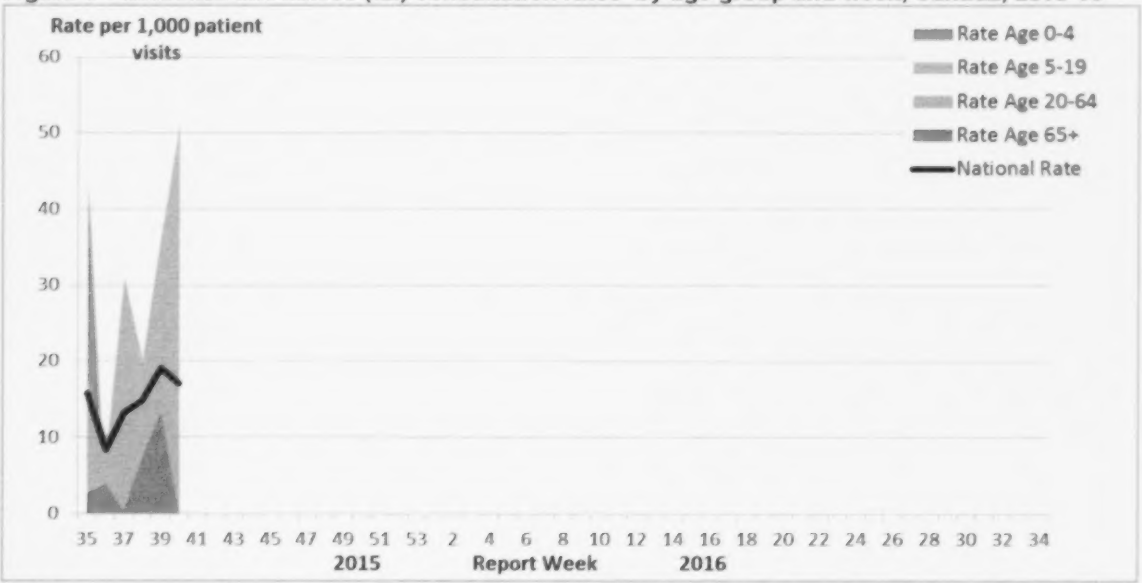
[1]Table 1 includes specimens for which demographic information was reported. These represent a subset of all positive influenza cases reported.
[2]Percentage of tests positive for sub-types of influenza A are a percentage of all influenza A detections.
[3]UnS: unsubtyped: The specimen was typed as influenza A, but no result for subtyping was available.

For additional data on other respiratory virus detections see the Respiratory Virus Detections in Canada Report on the Public Health Agency of Canada website.

Influenza-like Illness Consultation Rate

The national influenza-like-illness (ILI) consultation rate decreased from 19.1 consultations per 1,000 patient visits in week 39 to 17.1 per 1,000 visits in week 40. In week 40, the highest ILI consultation rate was found in the 5-19 age group and the lowest was found in the ≥65 age group (Figure 4).

Figure 4 – Influenza-like illness (ILI) consultation rates by age group and week, Canada, 2015-16

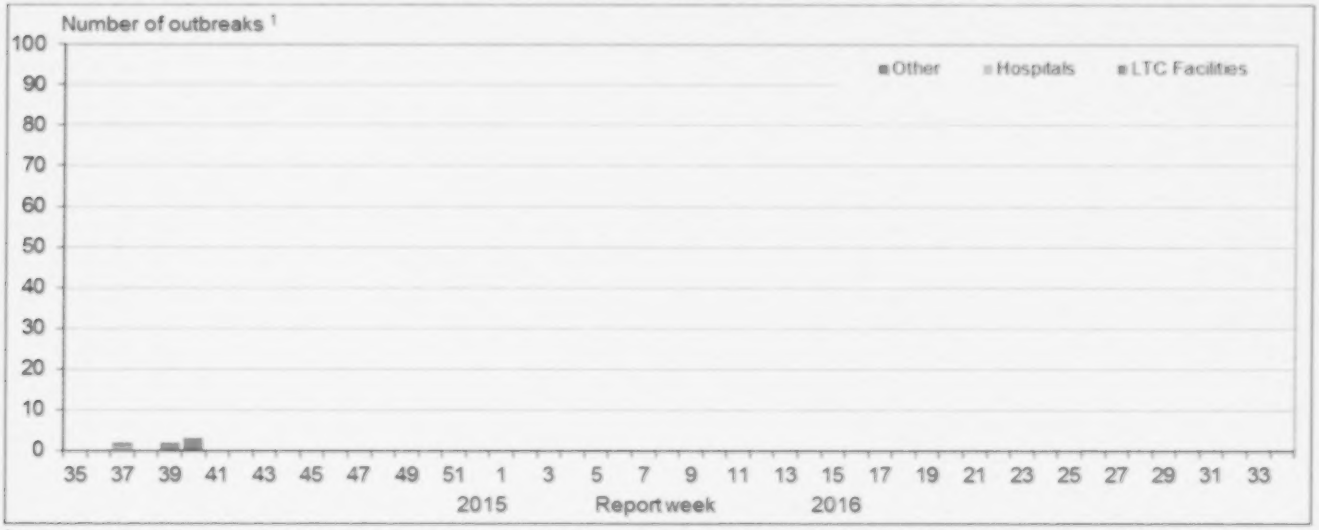


Delays in the reporting of data may cause data to change retrospectively. In BC, AB, and SK, data is compiled by a provincial sentinel surveillance program for reporting to FluWatch. Not all sentinel physicians report every week.

Influenza Outbreak Surveillance

In weeks 39 and 40, five new outbreaks of influenza were reported. Four outbreaks were reported in long-term care facilities, three of which were associated with influenza A(H3). The other outbreak was reported in an institutional or community setting and was also associated with influenza A(H3) (Figure 5). To date this season, seven outbreaks have been reported, which is lower compared to the same period in the previous season.

Figure 5 – Overall number of new laboratory-confirmed influenza outbreaks by report week, Canada, 2015-2016



[1]All provinces and territories except NU report influenza outbreaks in long-term care facilities. All provinces and territories with the exception of NU and QC report outbreaks in hospitals. Outbreaks of influenza or influenza-like-illness in other facilities are reported to FluWatch but reporting varies between jurisdictions. Outbreak definitions are included at the end of the report.

Sentinel Pediatric Hospital Influenza Surveillance

Paediatric Influenza Hospitalizations and Deaths (IMPACT)

To date, less than five laboratory-confirmed influenza-associated paediatric (≤16 years of age) hospitalizations have been reported by the Immunization Monitoring Program Active (IMPACT) network. The hospitalized cases were due to influenza A.

Figure 6 – Percentage of hospitalizations, ICU admissions and deaths with influenza reported by age-group, Canada, 2015-16, Paediatric hospitalizations (≤16 years of age, IMPACT)

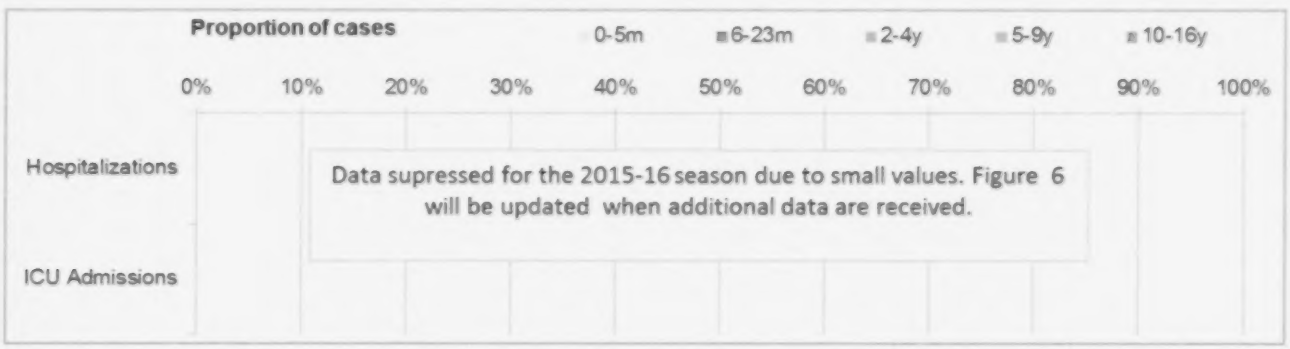
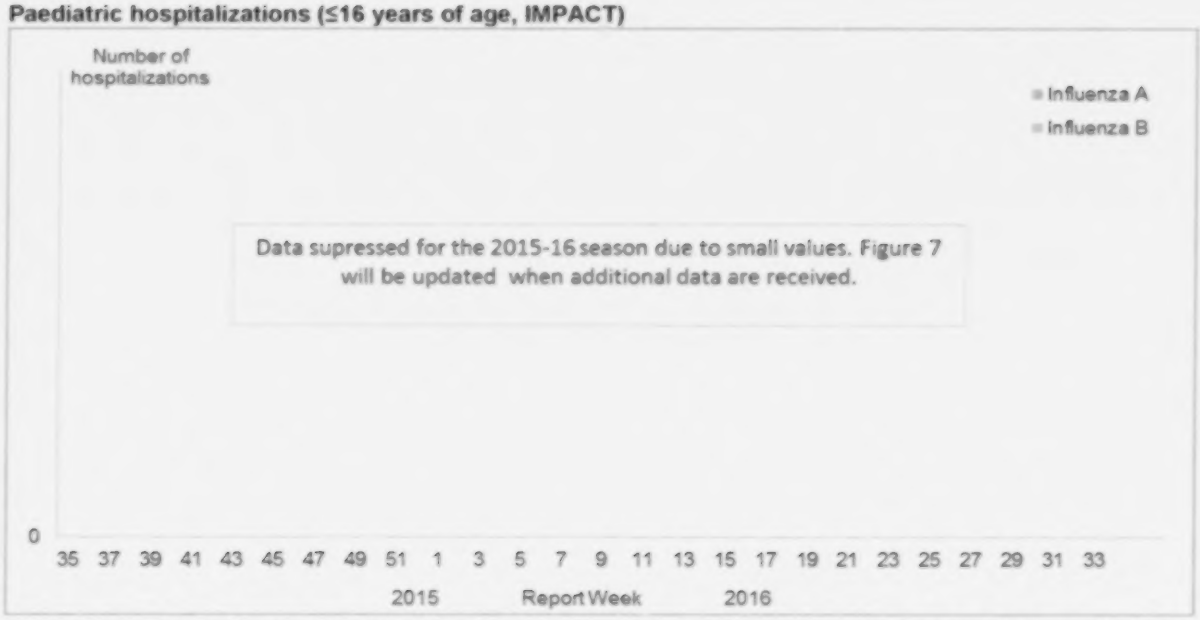


Figure 7 – Number of cases of influenza reported by sentinel hospital networks, by week, Canada, 2015-16

Paediatric hospitalizations (≤16 years of age, IMPACT)


Number of hospitalizations
Influenza A
Influenza B
Data supressed for the 2015-16 season due to small values. Figure 7 will be updated when additional data are received.
0
35 37 39 41 43 45 47 49 51 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33
2015
Report Week
2016

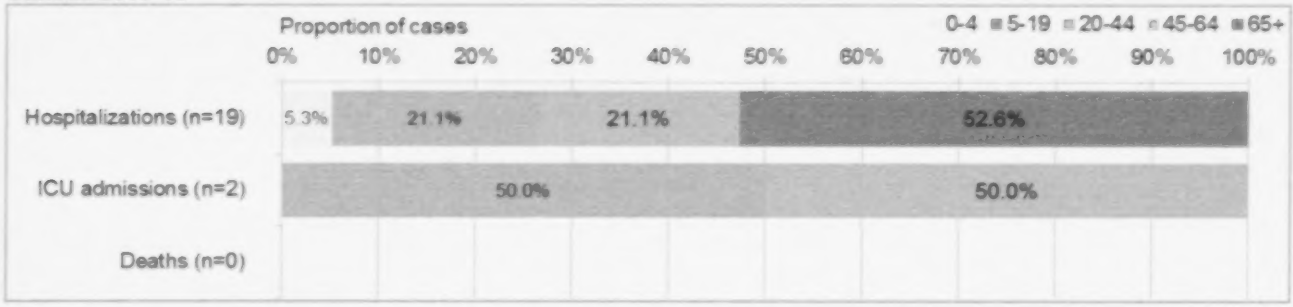
Note: The number of hospitalizations reported through IMPACT represents a subset of all influenza-associated paediatric hospitalizations in Canada. Delays in the reporting of data may cause data to change retrospectively.

Provincial/Territorial Influenza Hospitalizations and Deaths

Since the start of the 2015-16 season, 19 laboratory-confirmed influenza-associated hospitalizations were reported from participating provinces and territories*. All were due to influenza A and the majority were patients ≥65 years of age. Two ICU admissions have also been reported.

* Note: Influenza-associated hospitalizations are not reported to PHAC by the following Provinces and Territory: BC, NU, and QC. Only hospitalizations that require intensive medical care are reported by Saskatchewan. ICU admissions are not distinguished among hospital admissions reported from Ontario. Data may also include cases reported by the IMPACT networks. The number of new influenza-associated hospitalizations and deaths reported for the current week may include cases from Ontario that occurred in previous weeks, as a result of retrospective updates to the cumulative total. It is important to note that the hospitalization or death does not have to be attributable to influenza, a positive laboratory test is sufficient for reporting.

Figure 8 – Percentage of hospitalizations, ICU admissions and deaths with influenza reported by age-group, Canada 2015-16



See additional data on Reported Influenza Hospitalizations and Deaths in Canada: 2011-12 to 2015-16 on the Public Health Agency of Canada website.

Influenza Strain Characterizations

During the 2015-16 influenza season, the National Microbiology Laboratory (NML) has characterized five influenza viruses [5 A(H3N2)]. Sequence analysis of the HA gene of these viruses showed that the five H3N2 viruses were almost identical to the A/Switzerland/9715293/2013, the influenza A(H3N2) component of the 2015-16 influenza vaccine.

The recommended components for the 2015-2016 northern hemisphere trivalent influenza vaccine include: an A/California/7/2009(H1N1)pdm09-like virus, an /Switzerland/9715293/2013(H3N2)-like virus, and a B/Phuket/3073/2013 -like virus (Yamagata lineage). For quadrivalent vaccines, the addition of a B/Brisbane/60/2008-like virus is recommended.

The NML receives a proportion of the number of influenza positive specimens from provincial laboratories for strain characterization and antiviral resistance testing. Characterization data reflect the results of haemagglutination inhibition (HAI) testing compared to the reference influenza strains recommended by WHO.

Antiviral Resistance

During the 2015-16 season, the National Microbiology Laboratory (NML) as tested five influenza viruses for resistance to oseltamivir and zanamivir. All viruses were sensitive to zanamivir and oseltamivir. All influenza A viruses tested were resistant to amantadine (Table 2).

Table 2 – Antiviral resistance by influenza virus type and subtype, Canada, 2015-16

Virus type and subtype	Oseltamivir		Zanamivir		Amantadine	
	# tested	# resistant (%)	# tested	# resistant (%)	# tested	# resistant (%)
A (H3N2)	5	0	5	0	5	5 (100%)
A (H1N1)	0	0	0	0	0	0
B	0	0	0	0	NA[1]	NA[1]
TOTAL	5	0	5	0	5	5

[1]NA: Not Applicable

International Influenza Reports

World Health Organization influenza update
World Health Organization FluNet
WHO Influenza at the human-animal interface
Centers for Disease Control and Prevention seasonal influenza report
European Centre for Disease Prevention and Control - epidemiological data
South Africa Influenza surveillance report
New Zealand Public Health Surveillance
Australia Influenza Report
Pan-American Health Organization Influenza Situation Report

FluWatch Definitions for the 2015-2016 Season

Abbreviations: Newfoundland/Labrador (NL), Prince Edward Island (PE), New Brunswick (NB), Nova Scotia (NS), Quebec (QC), Ontario (ON), Manitoba (MB), Saskatchewan (SK), Alberta (AB), British Columbia (BC), Yukon (YT), Northwest Territories (NT), Nunavut (NU).

Influenza-like-illness (ILI): Acute onset of respiratory illness with fever and cough and with one or more of the following - sore throat, arthralgia, myalgia, or prostration which is likely due to influenza. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.

ILI/Influenza outbreaks

Schools: Greater than 10% absenteeism (or absenteeism that is higher (e.g. >5-10%) than expected level as determined by school or public health authority) which is likely due to ILI. Note: it is recommended that ILI school outbreaks be laboratory confirmed at the beginning of influenza season as it may be the first indication of community transmission in an area.
Hospitals and residential institutions: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case. Residential institutions include but not limited to long-term care facilities (LTCF) and prisons.
Workplace: Greater than 10% absenteeism on any day which is most likely due to ILI.
Other settings: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case; i.e. closed communities.
Note that reporting of outbreaks of influenza/ILI from different types of facilities differs between jurisdictions.

Influenza/ILI Activity Levels

1 = No activity: no laboratory-confirmed influenza detections in the reporting week, however, sporadically occurring ILI may be reported
2 = Sporadic: sporadically occurring ILI and lab confirmed influenza detection(s) with **no outbreaks** detected within the influenza surveillance region†
3 = Localized: (1) evidence of increased ILI* ;
(2) lab confirmed influenza detection(s);
(3) **outbreaks** in schools, hospitals, residential institutions and/or other types of facilities occurring in **less than 50% of the influenza surveillance region**†
4 = Widespread: (1) evidence of increased ILI*;
(2) lab confirmed influenza detection(s);
(3) **outbreaks** in schools, hospitals, residential institutions and/or other types of facilities occurring **in greater than or equal to 50% of the influenza surveillance region**†

Note: ILI data may be reported through sentinel physicians, emergency room visits or health line telephone calls.
** More than just sporadic as determined by the provincial/territorial epidemiologist.*
† Influenza surveillance regions within the province or territory as defined by the provincial/territorial epidemiologist.

We would like to thank all the Fluwatch surveillance partners who are participating in this year's influenza surveillance program.
This report is available on the Government of Canada Influenza webpage under Weekly influenza reports.
Ce rapport est disponible dans les deux langues officielles.